h 26, 1952

Dear Tom:

I just recalled that you had mentioned some experiments on the stimulating effects of light on K-12 recombination.

I was just about to set up some such when I remembered this. The F-story is ramifying indefinitely. It seems to be feasible to set up a sexual-potency gradient between the genetic F- and Cavalli's Hfr as extremes. Cultures of approximately the same grade are relatively infertile as compared to sexier combinations. Perhaps more interesting, the gradient series can also be used to rationalize the polarity of segmental elimination in the persistent, hemizygous (for Mal and S) diploids: the elimination usually occurs in the chromosome from the relatively F+ parent. This would account for the reversal of certain linkage relationships in crosses such as 58-161 x W-1177; 58-161 x W-1177F+ and back again with 58-161 Hfr x W-1177 F+ (or F-).

Relative/ sexuality immediately brings to mind the Hartmann-Kniep-Moewus stories in various algae, and from there it is a brief step to illumination studies. It occurs to me that you may indeed have the "texas" effect, but that this itself is an artefact. I myself have had rather poor luck in duplicating the effect (except erratically), probably because I was foolish enough to use a low pressure 2837 lamp, while they seem to be fond of a high pressure, polychromatic source. I intend to repeat it now, but I wonder if it would be asking too much to have the details of your experiments. Our F+ series makes it possible to plan the experiments on a concrete working hypothesis.

In your fellowship applications, I hope you did not commit yourself to start later than next September. While this may be necessary, I may have been too pessimistic.

Sincerely,

Joshua Lederberg